

Franklin International

Material Safety Data Sheet

Titebond PROvantage Projects and Repair Adhesive

1. Product and company identification

Address	: Franklin International 2020 Bruck Street Columbus OH 43207
Contact person	: Franklin Technical Services
Telephone	: (800) 877-4583
In case of emergency	: Franklin Security (614) 445-1300
Product code	: 5301
Date of revision	: 4/18/2012.
Print date	: 4/23/2012.
Chemtrec (24 Hour)	: (800) 424 - 9300
Chemtrec International	: (703) 527 - 3887
Product use	: Construction adhesive Proprietary polymer

2. Hazards identification

Emergency overview

Physical state	: Liquid. [Paste.]
Color	: Beige. [Light]
Odor	: Solvent(s) [Strong]
Signal word	: DANGER!
Hazard statements	: EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. CAUSES DIGESTIVE TRACT BURNS. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. MAY CAUSE EYE IRRITATION. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
Precautionary measures	: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid prolonged contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
<u>Potential acute health effects</u>	
Inhalation	: Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Inhalation causes headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.
Ingestion	: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

2. Hazards identification

- Skin** : Harmful in contact with skin. Irritating to skin. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Eyes** : Moderately irritating to eyes. This product may irritate eyes upon contact.
- Potential chronic health effects**
- Chronic effects** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.

3. Composition/information on ingredients

United States

Name	CAS number	%
methyl acetate	79-20-9	10 - 25
oxydipropyl dibenzoate	27138-31-4	5 - 10
morpholine	110-91-8	1 - 5
vinyl acetate	108-05-4	0.1 - 0.5

Canada

Name	CAS number	%
methyl acetate	79-20-9	10 - 25
oxydipropyl dibenzoate	27138-31-4	5 - 10
morpholine	110-91-8	1 - 5
methanol	67-56-1	0.1 - 0.5
vinyl acetate	108-05-4	0.1 - 0.5

Mexico

Name	CAS number	UN number	%	IDLH	Classification			
					H	F	R	Special
methyl acetate	79-20-9	UN1993	10 - 25	3100 ppm	2	3	0	-
morpholine	110-91-8	2054	1 - 5	1400 ppm	3	3	0	-
oxydipropyl dibenzoate	27138-31-4	Not available.	5 - 10	-	2	0	0	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

- Flammability of the product** : Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

7. Handling and storage

Storage

- : Store between the following temperatures: -17 to 40°C (1.4 to 104°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
methyl acetate	<p>ACGIH TLV (United States, 1/2011). TWA: 200 ppm 8 hour(s). TWA: 606 mg/m³ 8 hour(s). STEL: 250 ppm 15 minute(s). STEL: 757 mg/m³ 15 minute(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 200 ppm 8 hour(s). TWA: 610 mg/m³ 8 hour(s). STEL: 250 ppm 15 minute(s). STEL: 760 mg/m³ 15 minute(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 200 ppm 10 hour(s). TWA: 610 mg/m³ 10 hour(s). STEL: 250 ppm 15 minute(s). STEL: 760 mg/m³ 15 minute(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 200 ppm 8 hour(s). TWA: 610 mg/m³ 8 hour(s).</p>
morpholine	<p>ACGIH TLV (United States, 1/2011). Absorbed through skin. TWA: 20 ppm 8 hour(s). TWA: 71 mg/m³ 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 20 ppm 8 hour(s). TWA: 70 mg/m³ 8 hour(s). STEL: 30 ppm 15 minute(s). STEL: 105 mg/m³ 15 minute(s).</p> <p>NIOSH REL (United States, 6/2009). Absorbed through skin. TWA: 20 ppm 10 hour(s). TWA: 70 mg/m³ 10 hour(s). STEL: 30 ppm 15 minute(s). STEL: 105 mg/m³ 15 minute(s).</p> <p>OSHA PEL (United States, 6/2010). Absorbed through skin. TWA: 20 ppm 8 hour(s). TWA: 70 mg/m³ 8 hour(s).</p>
vinyl acetate	<p>ACGIH TLV (United States, 1/2011). TWA: 10 ppm 8 hour(s). TWA: 35 mg/m³ 8 hour(s). STEL: 15 ppm 15 minute(s). STEL: 53 mg/m³ 15 minute(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm 8 hour(s). TWA: 30 mg/m³ 8 hour(s). STEL: 20 ppm 15 minute(s). STEL: 60 mg/m³ 15 minute(s).</p> <p>NIOSH REL (United States, 6/2009).</p>

8. Exposure controls/personal protection

CEIL: 4 ppm 15 minute(s).
CEIL: 15 mg/m³ 15 minute(s).

Canada

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
methyl acetate	US ACGIH 1/2011	200	606	-	250	757	-	-	-	-	
	AB 4/2009	200	606	-	250	757	-	-	-	-	
	BC 9/2011	200	-	-	250	-	-	-	-	-	
	ON 7/2010	200	606	-	250	757	-	-	-	-	
	QC 9/2011	200	606	-	250	757	-	-	-	-	
morpholine	US ACGIH 1/2011	20	71	-	-	-	-	-	-	-	[1]
	AB 4/2009	20	71	-	-	-	-	-	-	-	[1]
	BC 9/2011	20	-	-	-	-	-	-	-	-	[1]
	ON 7/2010	20	70	-	30	105	-	-	-	-	[1]
	QC 9/2011	20	71	-	-	-	-	-	-	-	[1]
methanol	US ACGIH 1/2011	200	262	-	250	328	-	-	-	-	[1]
	AB 4/2009	200	262	-	250	328	-	-	-	-	[1]
	BC 9/2011	200	-	-	250	-	-	-	-	-	[1]
	ON 7/2010	200	262	-	250	328	-	-	-	-	[1]
	QC 9/2011	200	262	-	250	328	-	-	-	-	[1]
vinyl acetate	US ACGIH 1/2011	10	35	-	15	53	-	-	-	-	
	AB 4/2009	10	35	-	15	53	-	-	-	-	
	BC 9/2011	10	-	-	15	-	-	-	-	-	
	ON 7/2010	10	35	-	15	53	-	-	-	-	
	QC 9/2011	10	35	-	15	53	-	-	-	-	

[1]Absorbed through skin.

Mexico

Occupational exposure limits

Ingredient	Exposure limits
methyl acetate	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 200 ppm 8 hour(s). LMPE-PPT: 610 mg/m ³ 8 hour(s). LMPE-CT: 760 mg/m ³ 15 minute(s). LMPE-CT: 250 ppm 15 minute(s).
morpholine	NOM-010-STPS (Mexico, 9/2000). Absorbed through skin. LMPE-PPT: 20 ppm 8 hour(s). LMPE-PPT: 70 mg/m ³ 8 hour(s). LMPE-CT: 105 mg/m ³ 15 minute(s). LMPE-CT: 30 ppm 15 minute(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8. Exposure controls/personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9. Physical and chemical properties

- Physical state** : Liquid. [Paste.]
- Flash point** : Closed cup: -12.222°C (10°F) [Setaflash.]
- Color** : Beige. [Light]
- Odor** : Solvent(s) [Strong]
- Boiling/condensation point** : 54.444°C (130°F)
- Relative density** : 1.33983
- Volatility** : 28.65% (w/w)
- Evaporation rate** : >1 (butyl acetate = 1)
- VOC (less water, less exempt solvents)** : 36.28 g/l
- Solubility** : Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Highly reactive or incompatible with the following materials: oxidizing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Incompatibility** : Reactive or incompatible with the following materials: metals, acids and alkalis. morpholine: Reactive or incompatible with the following materials: oxidizing materials.
- Conditions of reactivity** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
methyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
morpholine	LD50 Dermal	Rabbit	500 mg/kg	-
	LD50 Oral	Rat	1050 mg/kg	-
oxydipropyl dibenzoate	LD50 Oral	Rat	3295 mg/kg	-
	LC50 Inhalation Vapor	Rat	11400 mg/m ³	4 hours
vinyl acetate	LD50 Dermal	Rabbit	2335 mg/kg	-
	LD50 Oral	Rat	2900 mg/kg	-

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
methyl acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
morpholine	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary

Skin

: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes

: This product may irritate eyes upon contact.

Respiratory

: High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
morpholine	A4	3	-	-	-	-
vinyl acetate	A3	2B	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure

11. Toxicological information

methyl acetate	LD50 Dermal	Rabbit	>5 g/kg	
	LD50 Oral	Rat	>5 g/kg	
morpholine	LD50 Dermal	Rabbit	500 mg/kg	
	LD50 Oral	Rat	1050 mg/kg	
oxydipropyl dibenzoate	LD50 Oral	Rat	3295 mg/kg	
	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
methanol	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	
vinyl acetate	LD50 Oral	Rat	5600 mg/kg	
	LC50 Inhalation Vapor	Rat	11400 mg/m ³	4 hours
	LD50 Dermal	Rabbit	2335 mg/kg	
	LD50 Oral	Rat	2900 mg/kg	

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
methyl acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
morpholine	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Conclusion/Summary

Skin

: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes

: This product may irritate eyes upon contact.

Respiratory

: High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
morpholine	A4	3	-	-	-	-
vinyl acetate	A3	2B	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Mexico

Acute toxicity

11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
methyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
morpholine	LD50 Dermal	Rabbit	500 mg/kg	-
	LD50 Oral	Rat	1050 mg/kg	-
oxydipropyl dibenzoate	LD50 Oral	Rat	3295 mg/kg	-

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
-	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
-	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary

Skin

: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes

: This product may irritate eyes upon contact.

Respiratory

: High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
morpholine	A4	3	-	-	-	-
vinyl acetate	A3	2B	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure

12. Ecological information

methyl acetate	Acute LC50 320000 to 348000 ug/L Fresh water	Fish - Pimephales promelas - 28 to 32 days - 17.5 mm - 0.087 g	96 hours
morpholine	Acute EC50 28000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 350000 ug/L Fresh water	Fish - Lepomis macrochirus - 33 to 75 mm	96 hours
vinyl acetate	Acute LC50 10000 to 100000 ug/L Marine water	Crustaceans - Crangon crangon - Larvae	48 hours
	Acute LC50 14000 ug/L Fresh water	Fish - Pimephales promelas - 1 days	96 hours

Persistence/degradability

No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
methyl acetate	Acute LC50 320000 to 348000 ug/L Fresh water	Fish - Pimephales promelas - 28 to 32 days - 17.5 mm - 0.087 g	96 hours
morpholine	Acute EC50 28000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 350000 ug/L Fresh water	Fish - Lepomis macrochirus - 33 to 75 mm	96 hours
methanol	Acute EC50 16.912 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 2500000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 to 4395 mg/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
vinyl acetate	Acute LC50 290 mg/L Fresh water	Fish - Danio rerio - Egg - stage	96 hours
	Acute LC50 10000 to 100000 ug/L Marine water	Crustaceans - Crangon crangon - Larvae	48 hours
	Acute LC50 14000 ug/L Fresh water	Fish - Pimephales promelas - 1 days	96 hours

Persistence/degradability

No known significant effects or critical hazards.

Mexico

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
methyl acetate	Acute LC50 320000 to 348000 ug/L Fresh water	Fish - Pimephales promelas - 28 to 32 days - 17.5 mm - 0.087 g	96 hours
morpholine	Acute EC50 28000 ug/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 350000 ug/L Fresh water	Fish - Lepomis macrochirus - 33 to 75 mm	96 hours

Persistence/degradability

No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal

: The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a







13. Disposal considerations

safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
TDG Classification	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
Mexico Classification	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
ADR/RID Class	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
IMDG Class	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
IATA-DGR Class	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Flammable liquid
Toxic material
Corrosive material
Carcinogen

U.S. Federal regulations :
TSCA 8(a) PAIR: methyl acetate; mequinol
TSCA 8(a) IUR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

15. Regulatory information

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: methyl acetate; morpholine

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Titebond PROvantage Projects and Repair Adhesive: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	morpholine vinyl acetate	110-91-8 108-05-4	1 - 5 0.1 - 0.5
Supplier notification	vinyl acetate	108-05-4	0.1 - 0.5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: METHYL ACETATE; MORPHOLINE

New York : The following components are listed: Vinyl acetate

New Jersey : The following components are listed: METHYL ACETATE; ACETIC ACID, METHYL ESTER; VINYL ACETATE; ACETIC ACID ETHENYL ESTER; MORPHOLINE

Pennsylvania : The following components are listed: ACETIC ACID, METHYL ESTER; ACETIC ACID ETHENYL ESTER; MORPHOLINE

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
methanol	No.	Yes.	45000 µg/day (ingestion) 47000 µg/day (inhalation)	No.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class E: Corrosive material

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

15. Regulatory information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :



International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. CAUSES DIGESTIVE TRACT BURNS. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. MAY CAUSE EYE IRRITATION. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Hazardous Material Information System (U.S.A.) :

Health	2
Flammability	3
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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✔ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.